S/N : 09/764,827

FIG. 1

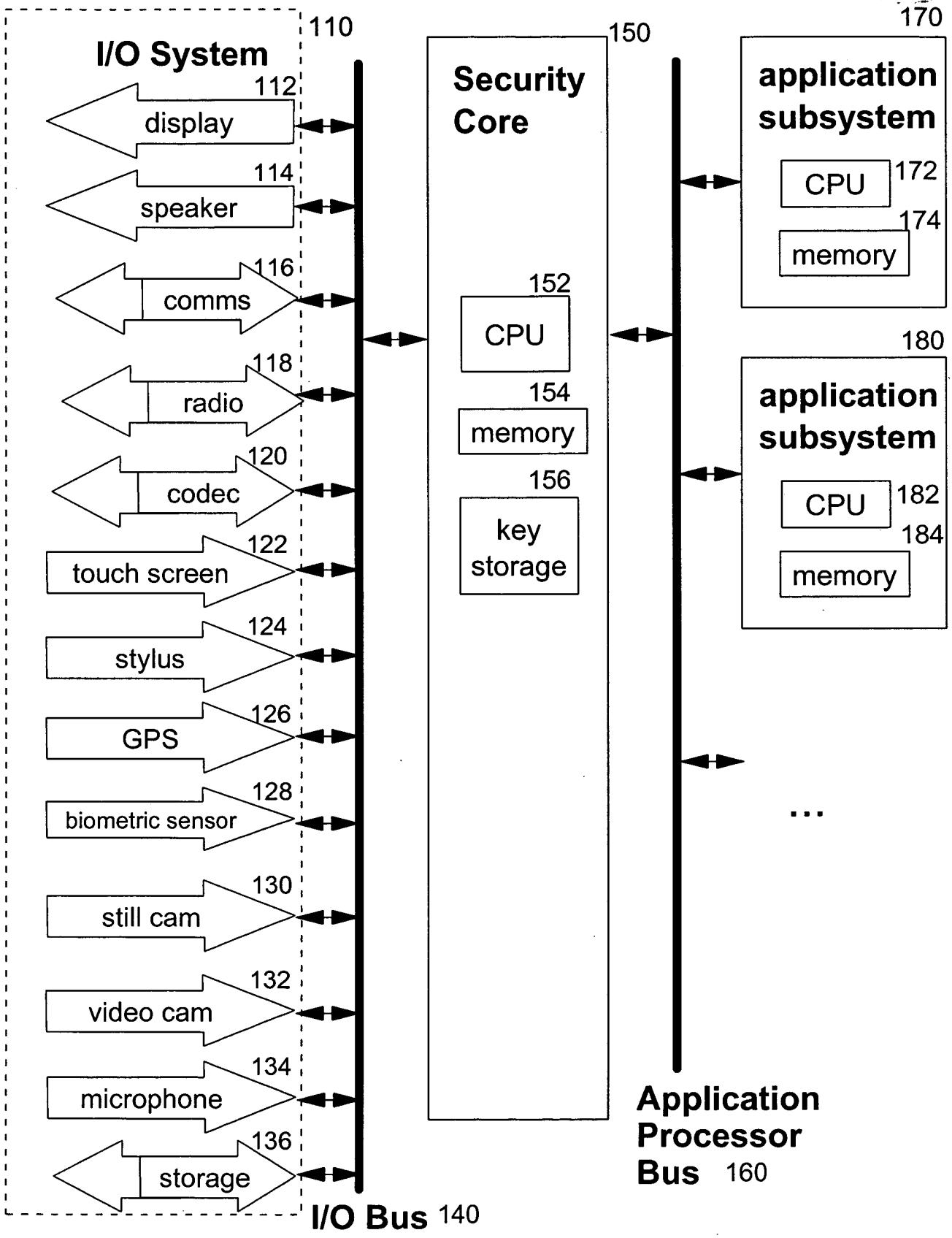


FIG. 2

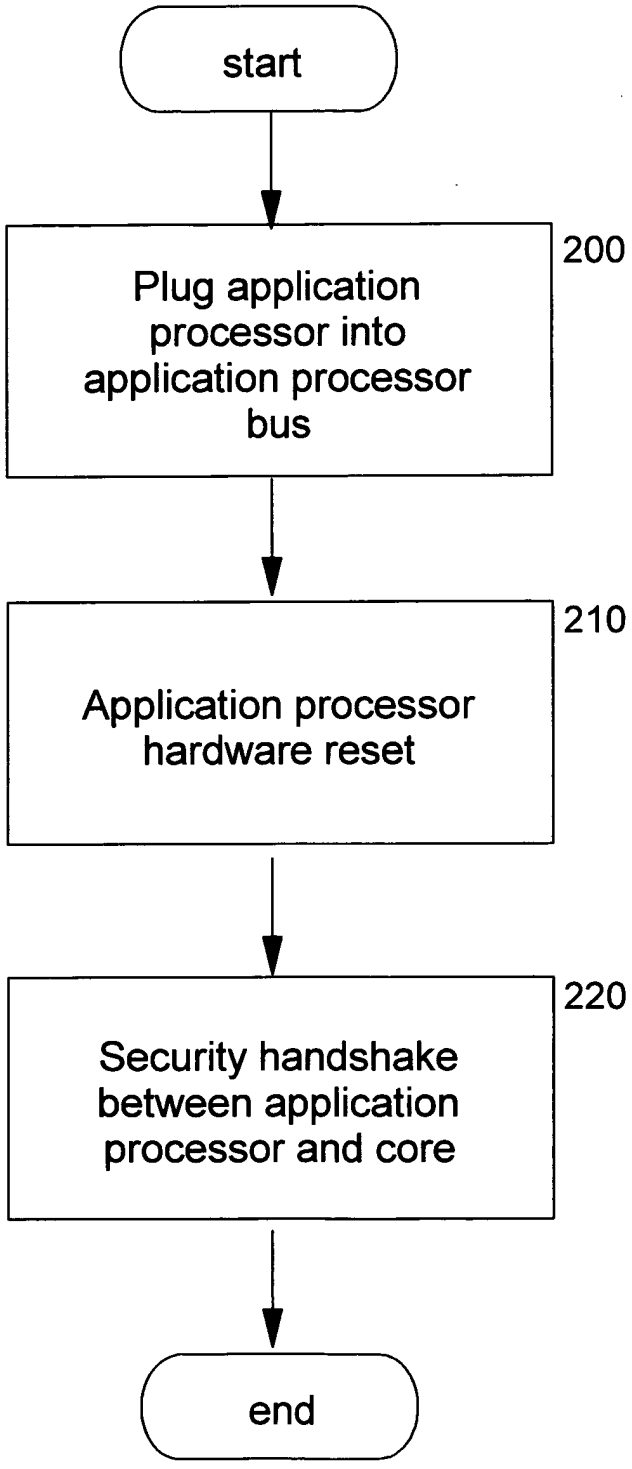

start
Plug application processor into application processor bus
200
Application processor hardware reset
210
Security handshake between application processor and core
220
end

FIG. 3

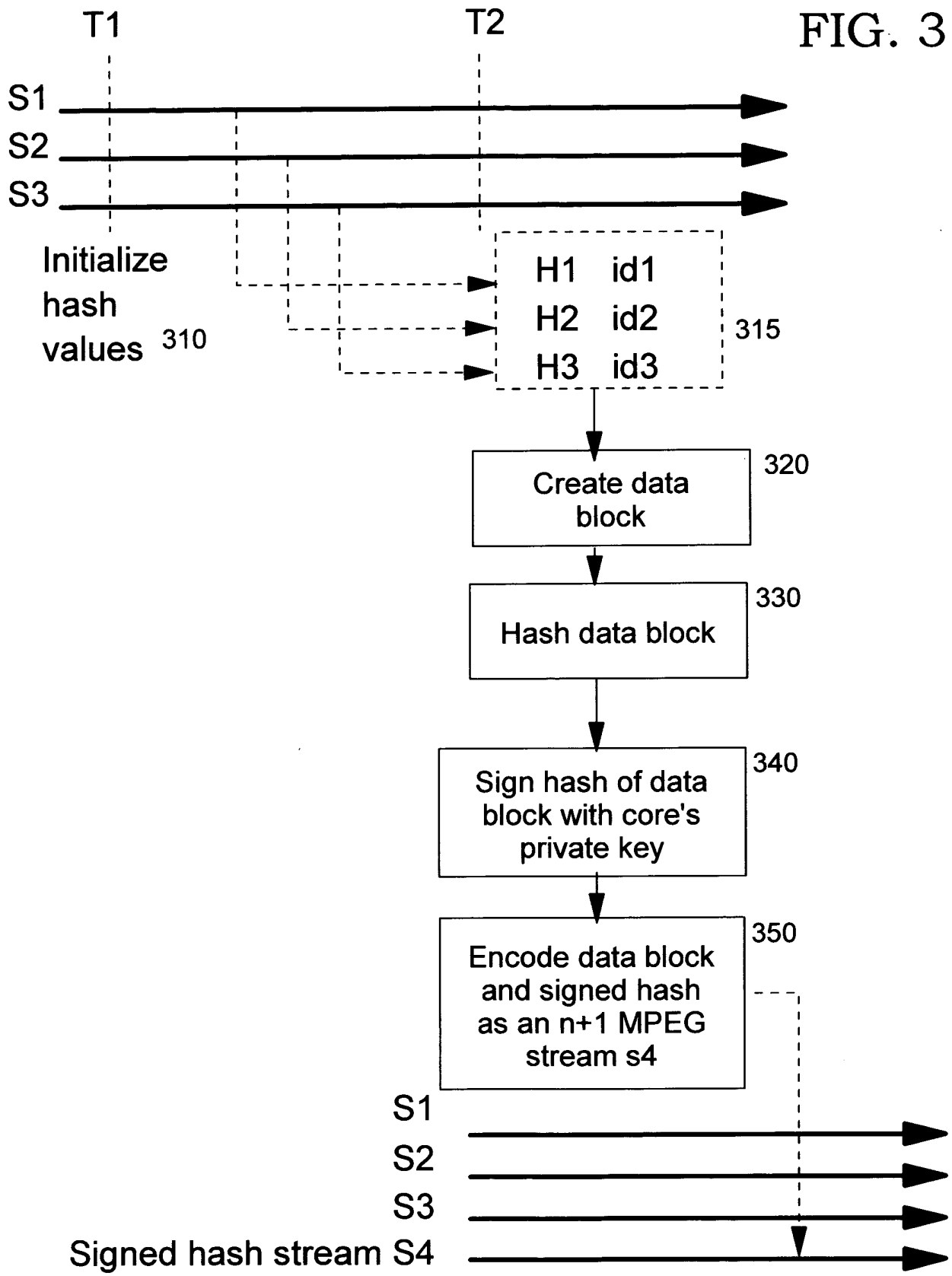

T1
T2
S1
S2
S3
Initialize hash values 310
H1 id1
H2 id2
H3 id3
315
Create data block
320
Hash data block
330
Sign hash of data block with core's private key
340
Encode data block and signed hash as an n+1 MPEG stream s4
350
S1
S2
S3
Signed hash stream S4

FIG. 4

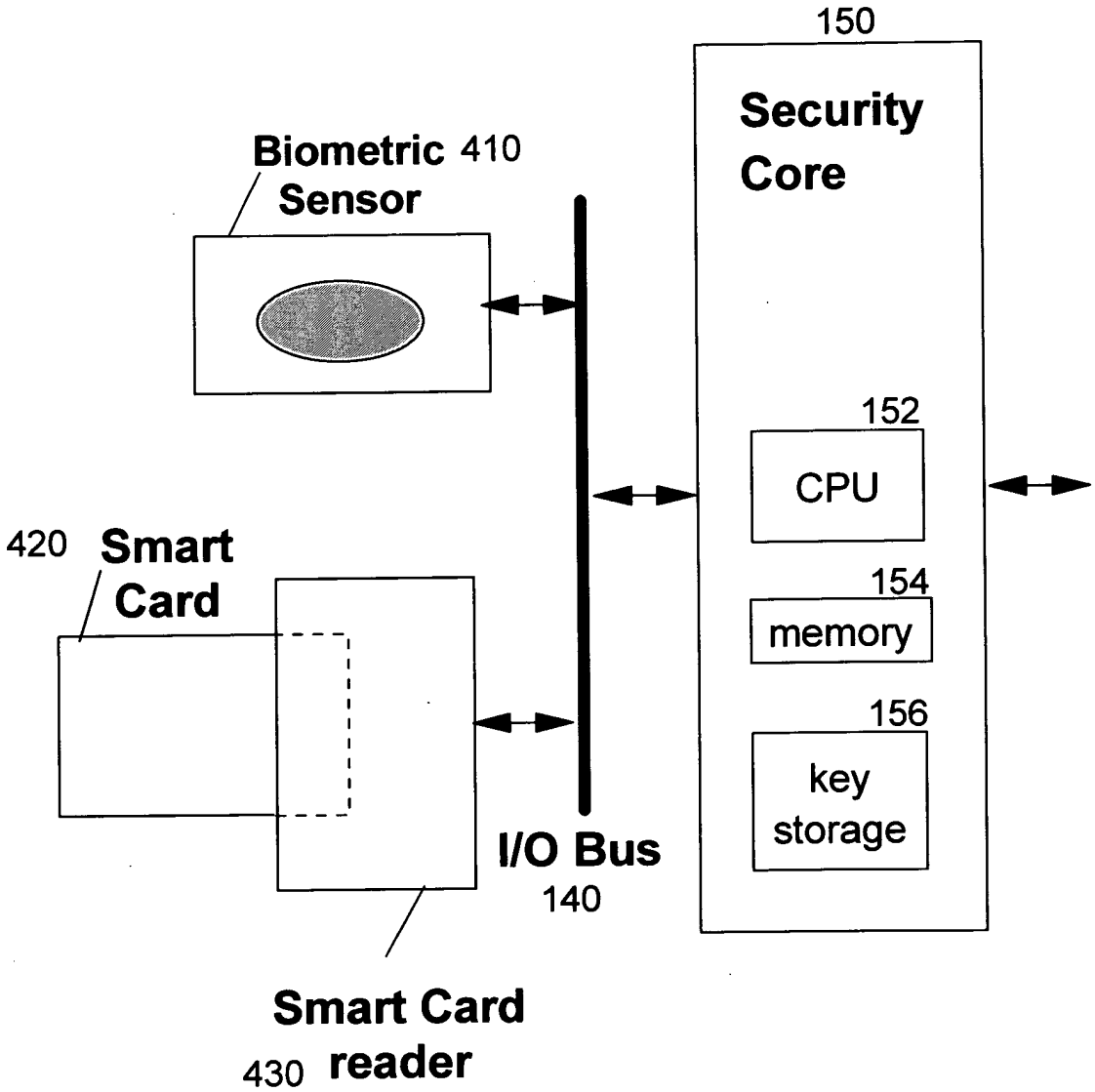

150
Security Core
Biometric Sensor
410
152
CPU
154
memory
156
key storage
420
Smart Card
I/O Bus
140
Smart Card reader
430

FIG. 5

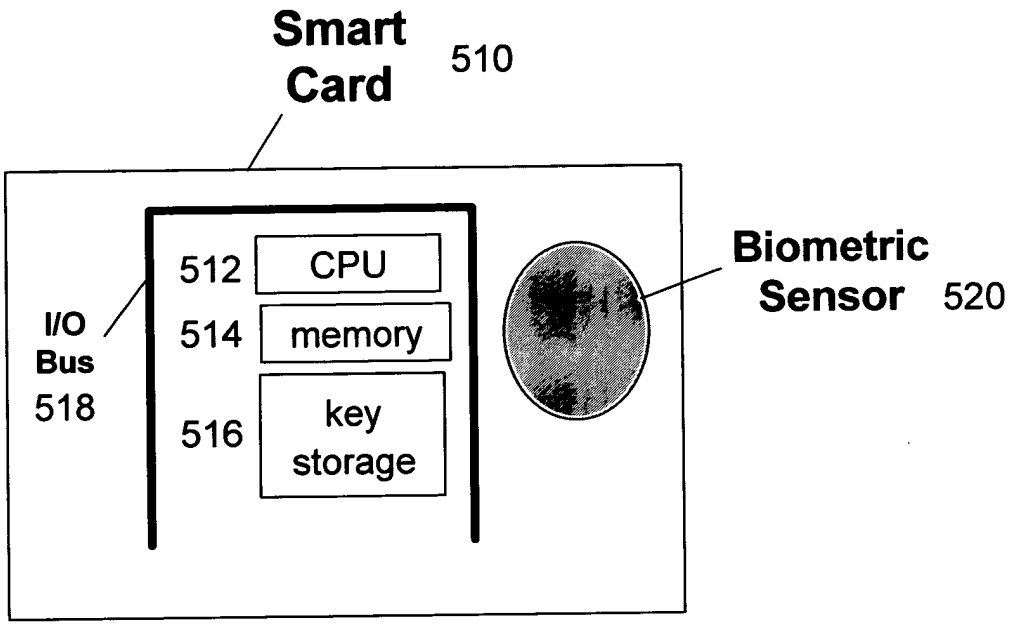

Smart Card
510
512
CPU
514
memory
516
key storage
I/O Bus
518
Biometric Sensor
520

FIG. 6

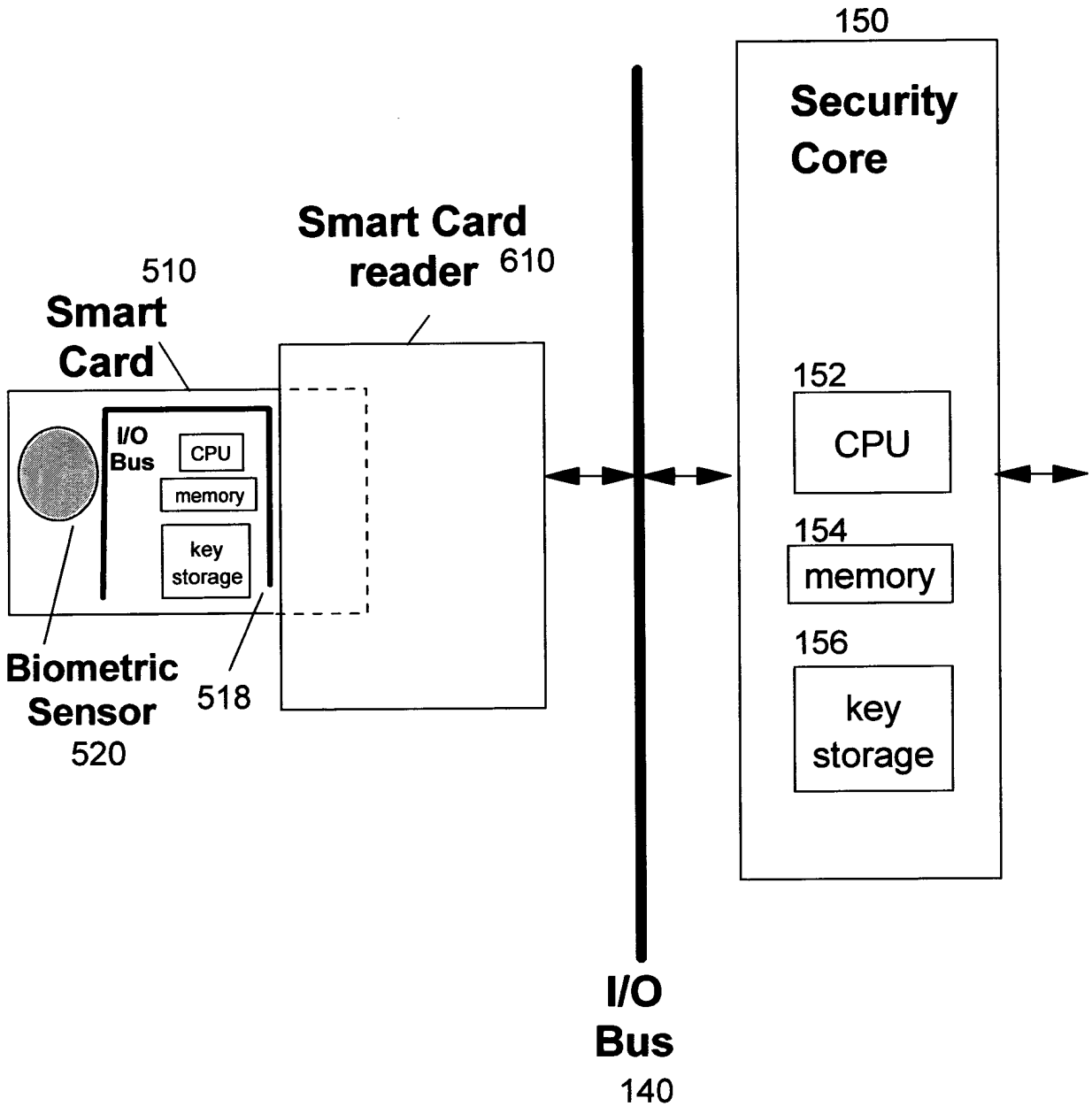

150
Security Core
Smart Card reader 610
510
Smart Card
I/O Bus
CPU
memory
key storage
152
CPU
154
memory
156
key storage
Biometric Sensor
520
518
I/O Bus
140

FIG. 7

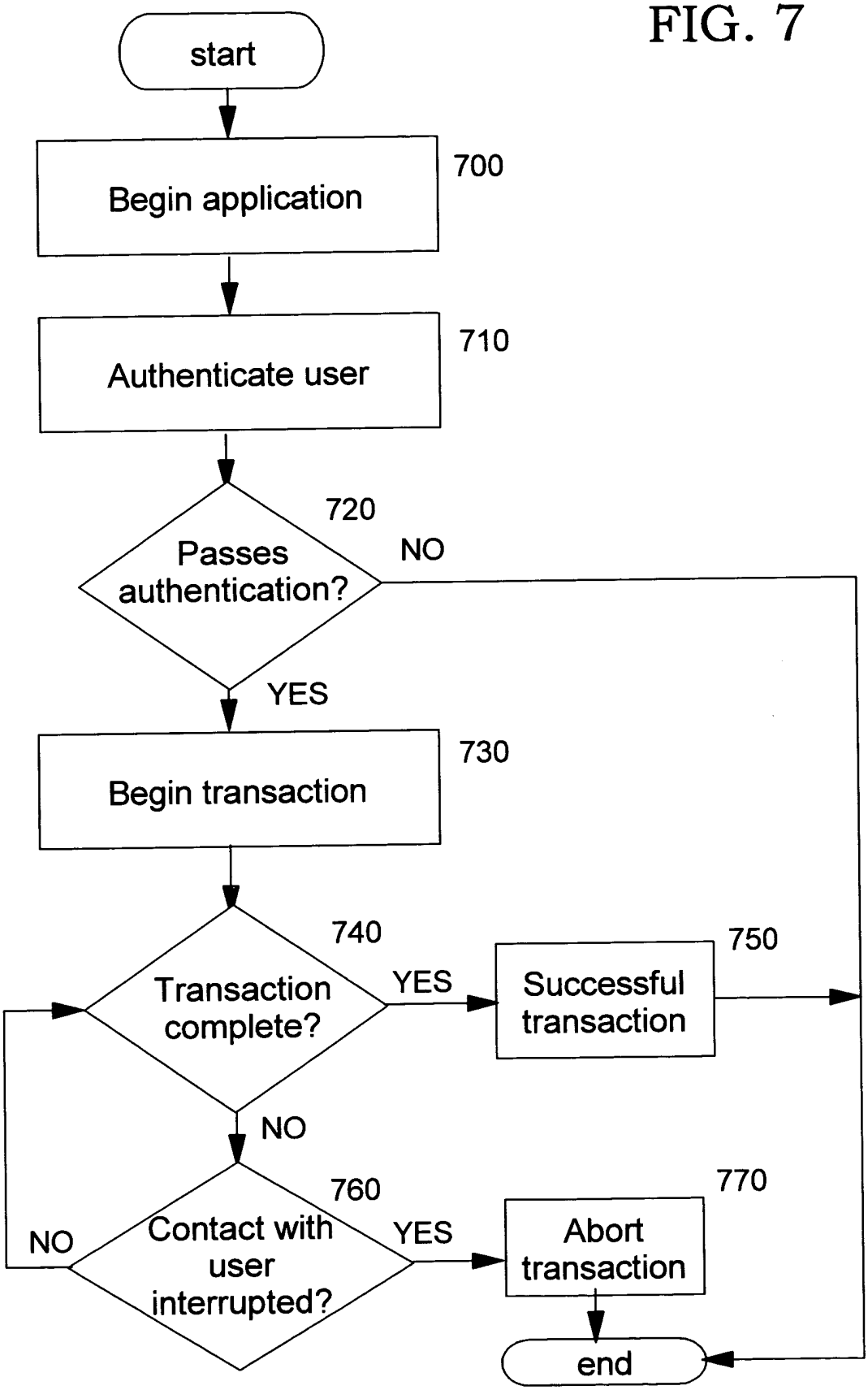

start
Begin application
700
Authenticate user
710
720
Passes authentication?
NO
YES
Begin transaction
730
740
Transaction complete?
YES
750
Successful transaction
NO
760
Contact with user interrupted?
NO
YES
770
Abort transaction
end

FIG. 8

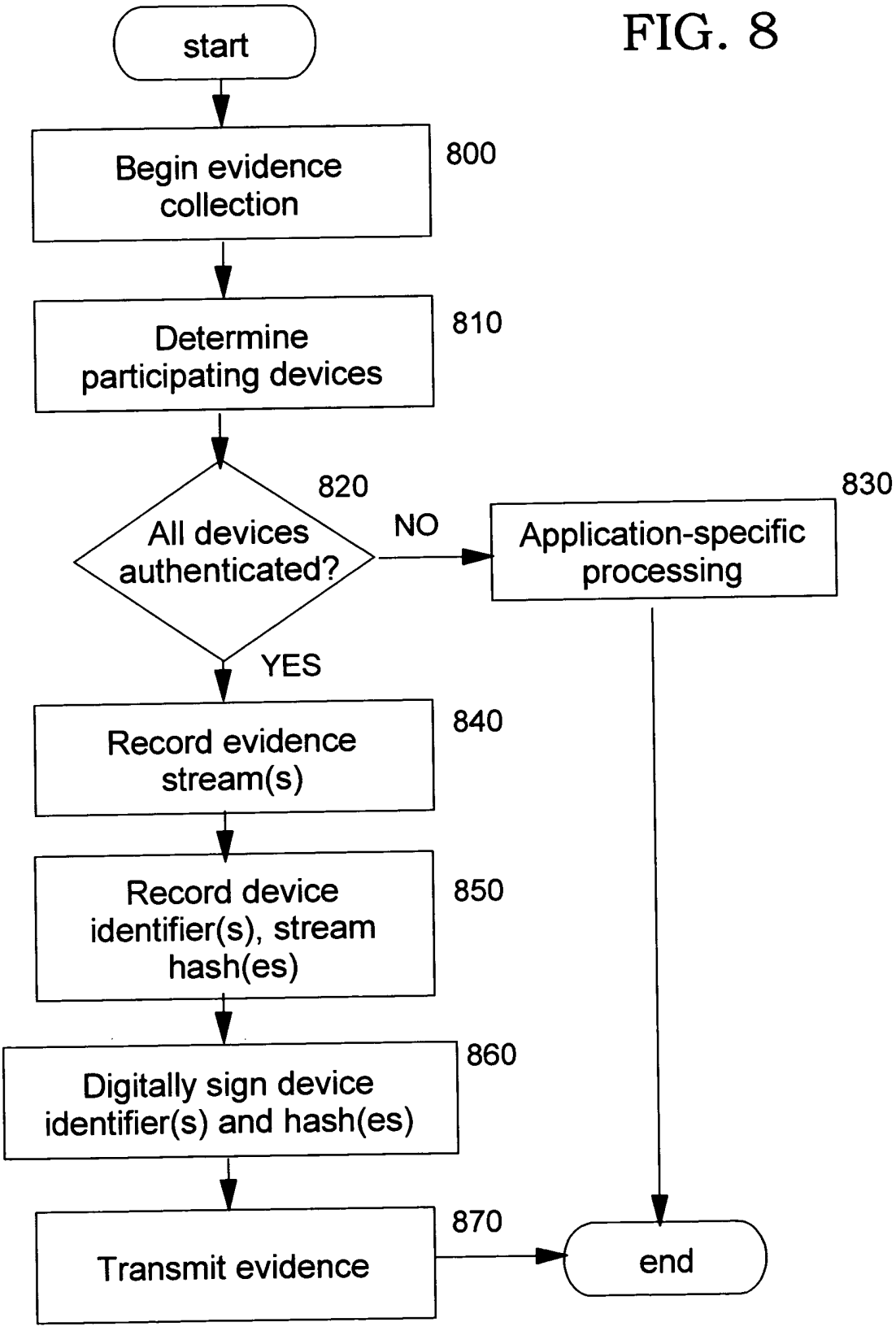
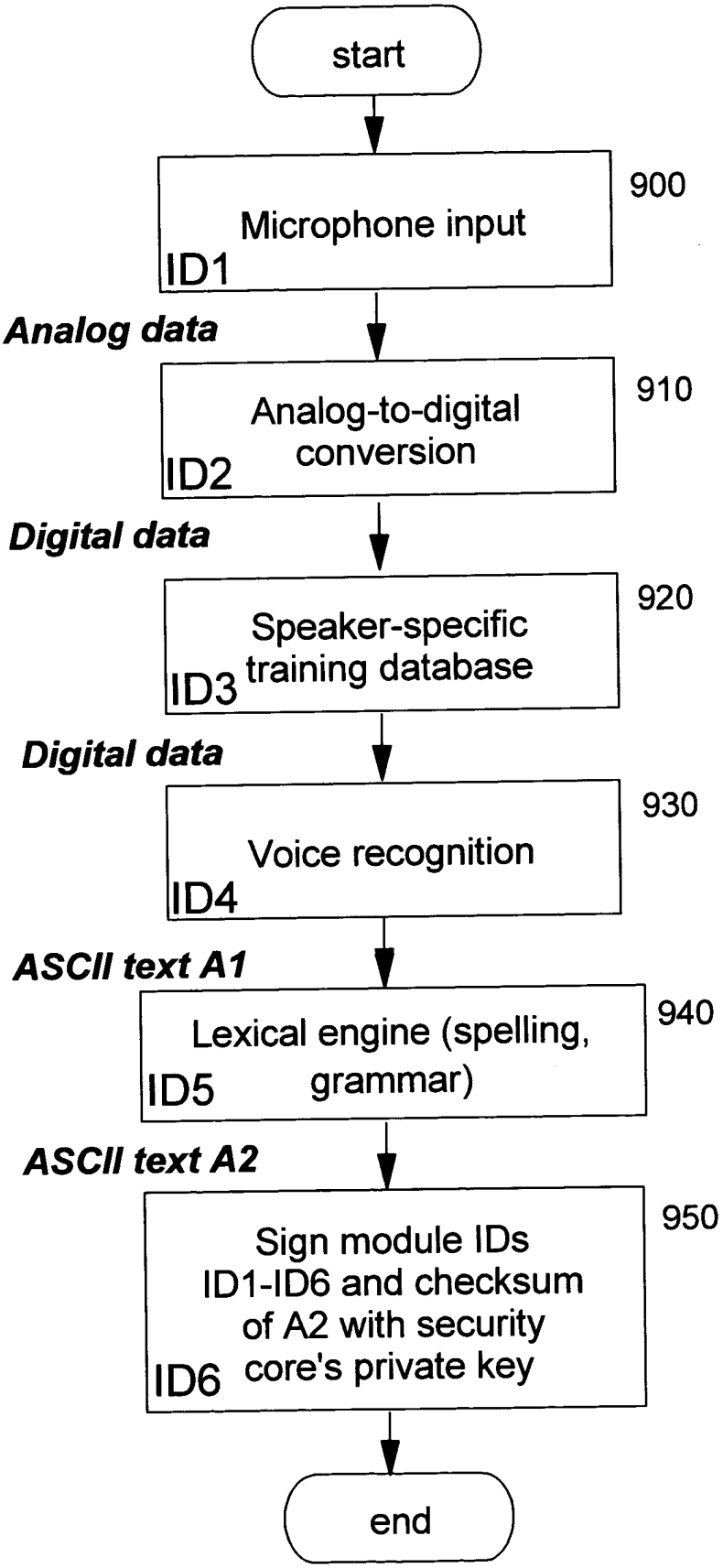

start
Begin evidence collection
800
Determine participating devices
810
All devices authenticated?
820
NO
Application-specific processing
830
YES
Record evidence stream(s)
840
Record device identifier(s), stream hash(es)
850
Digitally sign device identifier(s) and hash(es)
860
Transmit evidence
870
end

FIG. 9


start
Microphone input
ID1
900
Analog data
Analog-to-digital conversion
ID2
910
Digital data
Speaker-specific training database
ID3
920
Digital data
Voice recognition
ID4
930
ASCII text A1
Lexical engine (spelling, grammar)
ID5
940
ASCII text A2
Sign module IDs ID1-ID6 and checksum of A2 with security core's private key
ID6
950
end